Activity Title:
Photo montage – human impact on dunes

Focusing question
What human activities impact on the sandy beach and dune system?

Resources required
• PowerPoint presentation – 5d A photo montage of human impact
• Table for recording photo montage answers – page 199
• Teacher notes – Photo montage sample answers – page 200
• Copying: copy the tables for recording answers – one per student group or project digital image and have students create their own.

Prior learning
2j Species lost from the beach
3a Changing New Zealand beach use
3b Parts of the beach and human activities
3d New Zealanders and the beach
5b How do people affect beaches?
5c Positive and negative beach use posters

Method
1 The objective of this activity is to consider in more depth some of the positive and negative impacts people have on beaches.
2 Review the PowerPoint presentation 5d A photo montage of human impact.
3 Break students into small groups. Give each group a copy of the table for recording photo montage answers. Tell students they should be prepared to justify their choices. For level 4 and above, students could create their own table with five columns with the following headings:
   i. Beach uses
   ii. Positive (such as photo 34)
   iii. Negative (such as photo 9 or 10 rock walls)
   iv. Explanation (why this activity is positively or negatively categorised)
   v. Rectifying Action (what action could be taken to prevent the negative impact or enhance the positive impact of each use).
4 Show the PowerPoint presentation, allowing time for each group to record their answers.

5 Once all photos have been categorised, go back through the photo montage images and discuss each photograph as a class. Each group reports how they categorised the photograph. As a class consider:
   • Were there any differences in categorisation between the groups?
   • If so, why did groups categorise photos the way they did?

6 Record the list of positive and negative human impacts in exercise books.

7 Reflect on your learning about sand dunes and the way human beings in Aotearoa have impacted on them. In this context discuss the following proverb:

   *Whatu ngarongaro he tangata, toitū he whenua.*  
   *Human beings disappear but the land remains.*

Possible next steps

- Discuss the pros and cons of residential subdivisions along the coast. Are they a good thing? (Where should they be located – how far back from the sea? Consider as part of the discussion whether residential housing benefits dunes more than farms?)
- 5e Current issue case study – this activity takes one contemporary activity that is impacting on dunes and investigates it in more depth.
- 5f Beach traffic survey – a practical field activity investigating the diversity and quantity of traffic on local beaches and sand dunes.
Table for recording

**Photo montage answers**

Working in groups, use the photo montage to fill in the grid below:

<table>
<thead>
<tr>
<th>Beach uses</th>
<th>Positive (photo number)</th>
<th>Negative (photo number)</th>
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Positive and negative uses of the beach

Positive
Build houses and roads on the back dunes
Use walkways and accessways
Re-plant dune plants
Build fences to protect plants
Apply fertiliser to native plants
Dispose of stormwater onto land
Pull out pest plants
Remove pest animals

Negative
Build houses and roads on front dunes
Walk on dune plants
Ride horses on dunes
Ride motorbikes on dunes
Drive car on dunes
Dispose of stormwater on the dunes
Dump garden waste on the dunes
Sand mining
Sand boarding